**ABSTRACT**

5      A printer with synchronized engine/controllers is disclosed. The printer has a multi-segment

printhead. Each engine/controller (10) configured to be coupled with others to drive the printhead (33).

Each engine/controller (10) has an interface (27) at which to receive compressed page data. Image

decoders (28, 88) decode compressed image planes image decoders to perform an expansion, in pipeline

fashion, for the received compressed page data. A half-toner/compositor (29) composites respective strips

10    of the decoded image planes and sends output to a printhead interface (32). A printhead interface (32)

interfaces with the printhead. A synchronization signal generator (89, 90) may output a synchronization

signal that is used to synchronize print engine/controllers. One printhead interface (32) preferably acts as

master generating the synchronization signal to synchronize all the print engine/controllers to drive the

printhead at any one or more of higher speed, higher input resolution, higher outlet resolution or wider

15    format. The printhead interface comprises two LineSyncGen units, a first LineSyncGen unit providing a

synchronization signal for multiple print engine/controller chips and a second LineSyncGen unit adapted to

pulse a paper drive stepping motor.


(Figure 3)

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